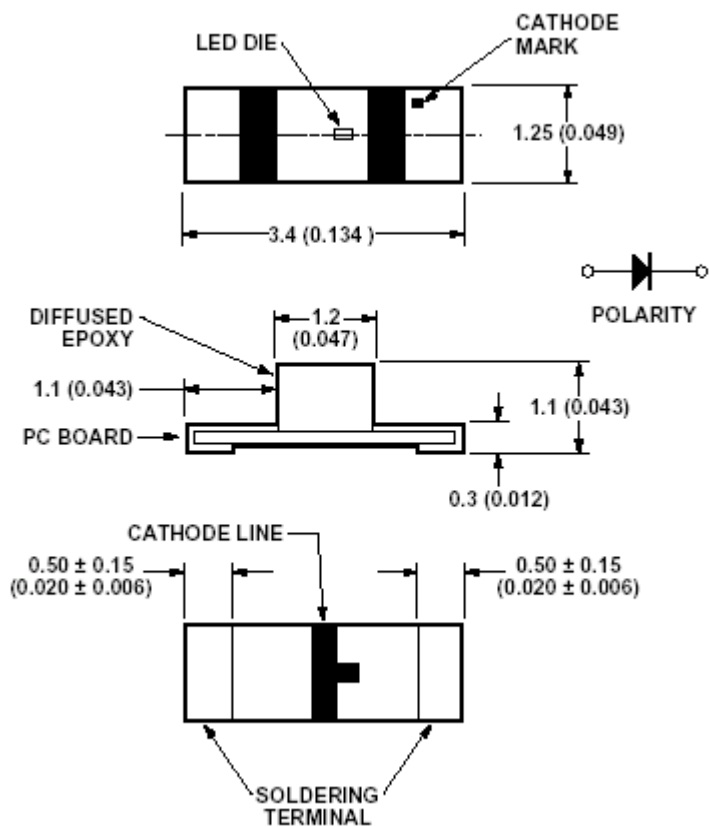


Preliminary Datasheet Agilent AllnGaP chipLED

Package Dimensions



HSMX-C265

Notes:

1. Dimensions in mm.
2. Tolerance ± 0.1 mm unless otherwise noted.

Device Selection Guide

| Part Number | Color | Parts Per Reel |
|-------------|----------|----------------|
| HSMA-C265 | Amber | 3000 |
| HSMC-C265 | Red | 3000 |
| HSML-C265 | Orange | 3000 |
| HSMT-C265 | Deep Red | 3000 |

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Absolute Maximum Ratings at $T_A = 25^\circ\text{C}$

| Parameter | HSMA/C/L/T-C265 | Units |
|---|----------------------------------|------------------|
| DC Forward Current | 25 | mA |
| Power Dissipation | 65 | mW |
| Reverse Voltage ($I_R = 10\mu\text{A}$) | 5 | V |
| LED Junction Temperature | 95 | $^\circ\text{C}$ |
| Operating Temperature Range | -30 to +85 | $^\circ\text{C}$ |
| Storage Temperature Range | -40 to +85 | $^\circ\text{C}$ |
| Soldering Temperature | See soldering profile (Figure 1) | |

Reverse Voltage Testing (Tolerance: +/- 30%)

Electrical Characteristics at $T_A = 25^\circ\text{C}$

| Part Number | Forward Voltage V_F (Volts) @ $I_F = 20\text{ mA}$ | | Reverse Breakdown V_R (Volts) @ $I_R = 100\ \mu\text{A}$ Min. |
|-----------------|---|------|---|
| | Typ. | Max. | |
| HSMA/C/L/T-C265 | 1.9 | 2.6 | 5 |

Optical Characteristics at $T_A = 25^\circ\text{C}$

| Part Number | Luminous Intensity I_v (mcd) @ 20 mA ^[1] | | Peak Wavelength λ_{peak} (nm) Typ. | Dominant Wavelength λ_d (nm) Typ. ^[2] |
|-------------|---|------|--|---|
| | Min. | Typ. | | |
| HSMA-C265 | 28.5 | 75 | 595 | 592 |
| HSMC-C265 | 28.5 | 75 | 637 | 626 |
| HSML-C265 | 28.5 | 75 | 609 | 605 |
| HSMT-C265 | 11.2 | 25 | 660 | 639 |

Notes:

1. The luminous intensity I_v is measured at the peak of the spatial radiation pattern which may not be aligned with the mechanical axis of the lamp package.
2. The dominant wavelength, λ_d , is derived from the CIE Chromaticity Diagram and represents the perceived color of the device.

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Light Intensity (Iv) Bin Limit^[1]

| Bin ID | Intensity (mcd) | |
|--------|-----------------|---------|
| | Min. | Max. |
| A | 0.11 | 0.18 |
| B | 0.18 | 0.29 |
| C | 0.29 | 0.45 |
| D | 0.45 | 0.72 |
| E | 0.72 | 1.10 |
| F | 1.10 | 1.80 |
| G | 1.80 | 2.80 |
| H | 2.80 | 4.50 |
| J | 4.50 | 7.20 |
| K | 7.20 | 11.20 |
| L | 11.20 | 18.00 |
| M | 18.00 | 28.50 |
| N | 28.50 | 45.00 |
| P | 45.00 | 71.50 |
| Q | 71.50 | 112.50 |
| R | 112.50 | 180.00 |
| S | 180.00 | 285.00 |
| T | 285.00 | 450.00 |
| U | 450.00 | 715.00 |
| V | 715.00 | 1125.00 |
| W | 1125.00 | 1800.00 |
| X | 1800.00 | 2850.00 |
| Y | 2850.00 | 4500.00 |

Tolerance: $\pm 15\%$

Note:

1. Bin categories are established for classification of products. Products may not be available in all categories. Please contact your Agilent representative for information on currently available bins.

Amber Color Bin Limits

| Bin ID | Dominant Wavelength (nm) | |
|--------|--------------------------|-------|
| | Min. | Max. |
| A | 582.0 | 584.5 |
| B | 584.5 | 587.0 |
| C | 587.0 | 589.5 |
| D | 589.5 | 592.0 |
| E | 592.0 | 594.5 |
| F | 594.5 | 597.0 |

Tolerance : + / - 1 nm

Red Color Bin Limits

| Bin ID | Dominant Wavelength (nm) | |
|--------|--------------------------|-------|
| | Min. | Max. |
| - | 615.0 | 630.0 |

Tolerance : + / - 1 nm

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Orange Color Bin Limits

| Bin ID | Dominant Wavelength (nm) | |
|--------|--------------------------|-------|
| | Min. | Max. |
| A | 597.0 | 600.0 |
| B | 600.0 | 603.0 |
| C | 603.0 | 606.0 |
| D | 606.0 | 609.0 |
| E | 609.0 | 612.0 |
| F | 612.0 | 615.0 |

Tolerance : + / - 1 nm

Deep Red Color Bin Limits

| Bin ID | Dominant Wavelength (nm) | |
|--------|--------------------------|-------|
| | Min. | Max. |
| - | 635.0 | 646.0 |

Tolerance : + / - 1 nm

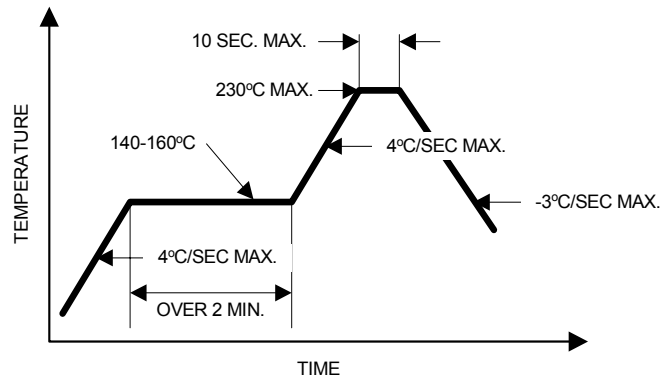


Figure 1: Recommended Reflow Soldering Profile

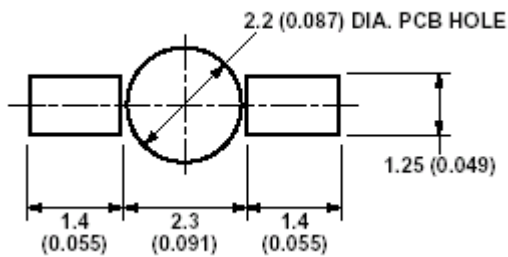


Figure 2: Recommended Soldering Pattern

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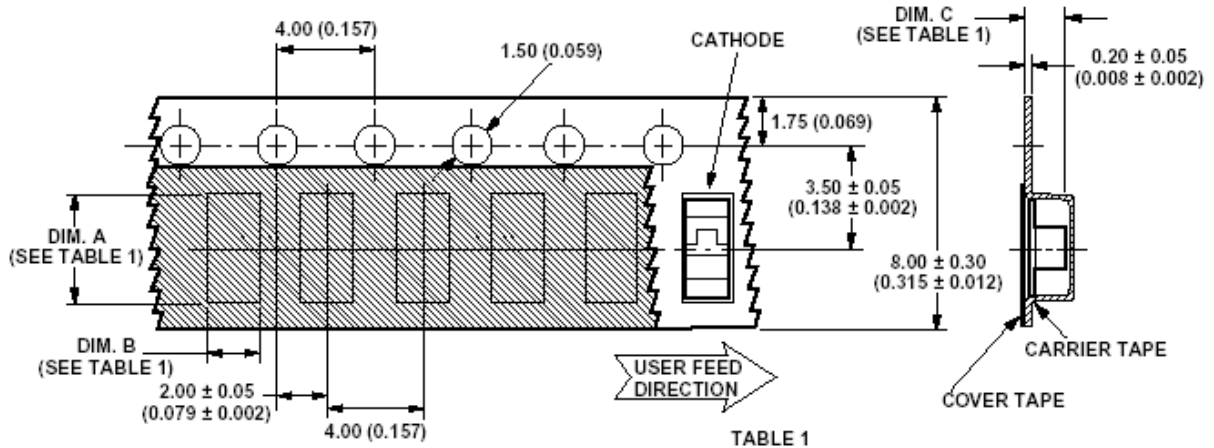


TABLE 1
DIMENSIONS IN MILLIMETERS (INCHES)

| PART NUMBER | DIM. A ± 0.10 (0.004) | DIM. B ± 0.10 (0.004) | DIM. C ± 0.10 (0.004) |
|------------------|--------------------------|--------------------------|--------------------------|
| HSMx-C265 SERIES | 3.70 (0.146) | 1.45 (0.057) | 1.30 (0.051) |

Figure 3: Tape Dimensions

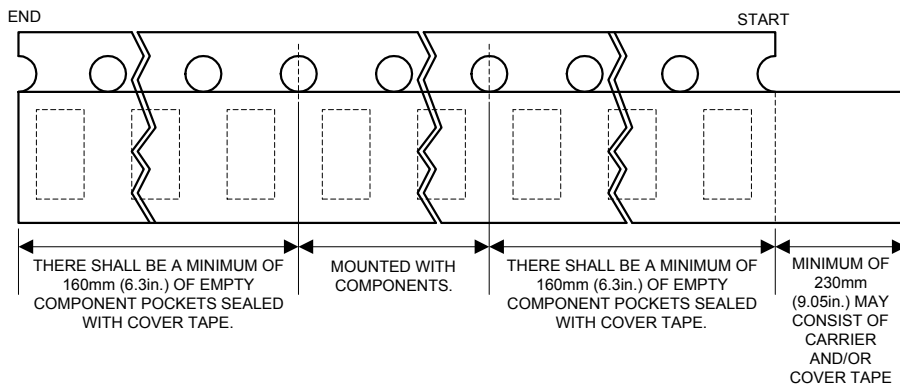


Figure 4: Tape Leader and Trailer Dimensions.

Notes:

1. All dimensions in millimeters (inches).
2. Tolerance is ± 0.1 mm (± 0.004 in.) unless otherwise specified.

Convective IR Reflow Soldering

For more information on IR reflow soldering, refer to Application Note 1060, *Surface Mounting SMT LED Indicator Components*.

Storage Condition : 5 to 30 °C @ 60%RH max.

Baking is required under the condition :

- a) the blue silica gel indicator becoming white / transparent color
 - b) the pack has been open for more than 1 week
- Baking recommended condition : 60 ± 5 °C for 20 hrs

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Data subject to change.

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